

AMENDMENTS TO THE CLAIMS

1-21. (Canceled)

22. (Currently Amended) A signal processing method comprising:
~~in which a primary signal is modified by, modifying a primary signal using,~~ at least, first
and second auxiliary signals; ~~and in order to investigate~~
~~investigating the modified primary signal, wherein each auxiliary signal comprising~~
~~comprises successive finite-duration shaped portions having relatively low-amplitude leading~~
and trailing parts, the portions being interleaved with, and overlapping, signal portions of the
other auxiliary signal.

23. (Currently Amended) A-The method as claimed in claim 22, wherein each shaped
portion has a shape substantially similar to that of a squared cosine.

24. (Currently Amended) A-The method as claimed in claim 23, wherein each shaped
portion is produced using a modified Kaiser window function.

25. (New) The method as claimed in claim 22, wherein each finite-duration shaped
portion contains multiple different predetermined frequencies.

26. (New) The method as claimed in claim 25, wherein each auxiliary signal comprises
finite-duration shaped portions containing a first set of frequencies, and intervening

finite-duration shaped portions containing a second set of frequencies, the frequencies of the first set being interleaved with the frequencies of the second set.

27. (New) The method as claimed in claim 25, wherein the primary signal is additionally modified by third and fourth auxiliary signals, the third auxiliary signal having finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the first auxiliary signal, and the fourth auxiliary signal containing finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the second auxiliary signal, and wherein the simultaneous finite-duration shaped portions of the first and third auxiliary signals contain frequency components in quadrature relationship with each other, and wherein the simultaneous finite duration shaped portions of the second and fourth auxiliary signals contain frequency components in quadrature relationship with each other.

28. (New) The method as claimed in claim 26, wherein the primary signal is additionally modified by third and fourth auxiliary signals, the third auxiliary signal having finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the first auxiliary signal, and the fourth auxiliary signal containing finite-duration shaped portions which are produced simultaneously with the finite-duration shaped portions of the second auxiliary signal, and wherein the simultaneous finite-duration shaped portions of the first and third auxiliary signals contain frequency components in quadrature relationship with each other, and wherein the simultaneous finite duration shaped portions of the second and fourth auxiliary signals contain frequency components in quadrature relationship with each other.